

**UNDERSTANDING THE PERSPECTIVES OF THE DECISION MAKERS
REGARDING THE SUCCESS OF AN EVIDENCE-BASED RESOURCE
ALLOCATION PROCESS**

by

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DEDICATION

This thesis is dedicated to all those who tirelessly work towards achieving the best possible healthcare for Canadians.

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ABSTRACT

Evidence-informed priority setting and resource allocation (PSRA) facilitates an economically feasible, ethical and fair allocation of the resources, especially in the context of increasingly constrained resource availability in the healthcare system. However, the factors that hinder or promote the "success" of these new initiatives are yet to be fully understood, complicating the decision making around these initiatives. Hence, the objective of this study was to explore the perspectives of the decision makers at a local health organization that recently implemented a PSRA process to guide their annual PSRA. Using a recently validated framework, this study investigated the conceptual, procedural and outcome-related dimensions of the PSRA process, and elucidated various organization-specific factors that shape the success of the PSRA initiative. It is anticipated that the findings from this study will provide decision makers with concrete evidence while devising the policies aimed at allocating limited resources in an evidence-informed manner.

LIST OF ABBREVIATIONS USED

CIHI	Canadian Institute for Health Information
PBMA	Programme budgeting and marginal analysis
PSRA	Priority setting and resource allocation
IWK	Izaak Walton Killam
ELT	Executive leadership team

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CHAPTER 1 INTRODUCTION

Most health care organizations in Canada, including regional health authorities and tertiary healthcare centers, are facing budgetary cutbacks and are being asked by governments to improve efficiency and reduce spending wherever possible. However, recent research has indicated that the majority of these organizations do not have a formal priority setting and resource allocation (PSRA) decision making process in place to inform such decisions. Typically, these organizations allocate resources on the basis of historical patterns and/or politics, and often times revert to the ‘usual means’ such as across the board cuts (Dionne, Mitton, Smith, & Donaldson, 2009; Mitton, Dionne, & Donaldson, 2014; Peacock et al., 2010). These traditional practices not only fail to take into consideration the current health needs of the population, but also hinder innovation. In this context, the healthcare organizations across Canada are looking to develop and/or implement new PSRA processes that are based on concrete evidence, which are supported through scientific methodologies, and are economically feasible, ethical and fair. To achieve these goals, healthcare organizations worldwide have vehemently advocated for the development and implementation of evidence-informed processes to guide decision making around PSRA (Bate & Mitton, 2006; Dionne et al., 2009; Gibson, Mitton, Martin, Donaldson, & Singer, 2006; Mitton et al., 2013; Mitton et al., 2014; Peacock et al., 2010).

Evidence-informed PSRA processes aim to promote the optimal health care provision by achieving “the best bang for each buck spent”, and can be performed through various

established scientific methodologies or frameworks. Thus far, these strategies have been implemented at numerous healthcare institutions worldwide, especially in the United Kingdom (UK), Australia and New Zealand, and have generated valuable policy guidelines in terms of methods and processes for priority setting (Mitton & Donaldson, 2001; Mitton, Patten, Waldner, & Donaldson, 2003; Mitton, Peacock, Donaldson, & Bate, 2003; Mitton & Prout, 2004). Nonetheless, there has been only limited work examining the factors on which decisions are based and, critically, the context and culture that enable the “success” of these initiative (Sibbald, Singer, Upshur, & Martin, 2009; Sibbald, Gibson, Singer, Upshur, & Martin, 2010). For example, in the context of Nova Scotia, currently there is no information available on the contextual factors that influence the successful implementation of evidence-informed PSRA processes. Simply put, “one size does not fit all”- the findings from elsewhere must be critically analyzed to understand their applicability in the local environment.

One such evidence-informed framework of PSRA, known as **Programme Budgeting and Marginal Aalysis (PBMA), was recently implemented at the IWK Health Centre. This study aimed to understand the contextual factors that determine the “success” of such evidence-based PSRA implementation. It should be noted that the intent of this study is not to show that PBMA is the ‘best’ option simply because that was the instrument of choice at IWK Health Centre, rather, the objective is to learn from the experience at the IWK Health Centre and identify the potential factors that determine the “success” of such initiative. It is believed that the knowledge synthesized through this project will advocate for the best practice (clinical and operational), improve outcomes and the sustainability of the publically funded healthcare system, and further promote the**

development of the capacity enabling the provision of uncompromised health care in the face of present and future fiscal constraints.

1.1 EVIDENCE-BASED RESOURCE ALLOCATION AND PRIORITY SETTING

Canadian policy makers have acknowledged that if we continue to spend at the current rate, the healthcare system will consume most of the available public funds and resources in the near future, jeopardizing the fate of other social programs (CIHI, 2012).

Considering this possible dire consequence, decision makers have proactively initiated progressive funding cuts on healthcare-related expenditure. Thus, the Canadian healthcare system has been faced with resource scarcity in recent years. Most of the Canadian health care institutions including regional health authorities as well as tertiary healthcare centres (for example the IWK Health Centre) have been handed budgetary cutbacks and asked to further “tighten the loose ends” by using available resources wisely.

Traditionally, health care organizations have been known to allocate resources on the basis of historical patterns and/or political means - a traditional practice in which usually "the one who shouts the loudest" wins (Peacock et al., 2010a; Mitton & Patten, 2004; Astley & Wake-Dyster, 2001). Through these practices, the evidence-informed decision making is usually minimized and scarcely available resources are often not used in the best manner possible. Thus far, many studies have focused on developing the tools that facilitate the evidence-informed resource allocation in healthcare organizations (Teng,

Mitton, & Mackenzie, 2007a; Peacock et al., 2010a; Mortimer, 2010). However, only limited work has focused on understanding the factors upon which decisions are based, and the context and culture that enables these methods and processes to succeed. Therefore, only limited evidence, tools and approaches are available for healthcare professionals while looking for the ways that would allow them to execute ethically sound and fair system-wide resource allocation.

Legislation in Canada asks health care organizations not only to set priorities in order to meet the health needs of the local population, but also to develop effective methods for this purpose. Over the last several years, research has shown that health care decision makers face two main impediments with respect to setting priorities and allocating resources. The first has to do with a lack of skills in these processes (Teng, Mitton, & Mackenzie, 2007b), while the second pertains to the organizational culture of health care management, where attitudes and incentives have been shaped by, and implicitly support, traditionally practiced allocation mechanisms (Teng et al., 2007a; Peacock et al., 2010b). However, in recent times, the efforts have focused on synthesis of evidence in the areas of institutional priority setting (Mortimer, 2010; Wilson, Peacock, & Ruta, 2009; Smith, Mitton, & Peacock, 2009a; Smith, Mitton, Peacock, Cornelissen, & MacLeod, 2009b; Smith, Mitton, & Peacock, 2009b) at macro (national/provincial), meso (organizational) and micro (program/departmental) levels (Kapiriri, Norheim, & Martin, 2007). These knowledge synthesis and exchange exercises have steered the priority setting agenda away from ‘technical’ solutions towards more manager-friendly processes (Smith,

Mitton, Peacock, Cornelissen, & MacLeod, 2009a; Smith, Mitton, Cornelissen, Gibson, & Peacock, 2012; Peacock, Richardson, Carter, & Edwards, 2007b).

With the primary focus in recent years on the ‘doing’ of priority setting and associated capacity building, much less attention has been paid to the organizational context (Patten, Mitton, & Donaldson, 2006; Mitton, Donaldson, Waldner, & Eagle, 2003; Mitton, Peacock, Donaldson, & Bate, 2003a; Astley et al., 2001). Of course, implementation and context go hand in hand, but to date we have gathered limited knowledge on a range of organization-related issues including the factors that influence health care priority setting decisions, the inputs and sources of ‘evidence’ for setting priorities, and the structures, processes and behaviors that contribute to achieving high performance with respect to priority setting. In order to improve the practice of health care priority setting, a better understanding is required of the basic factors underpinning priority setting decisions and the associated organizational structures, processes and behaviors (Jan, 2000c). The ultimate aim is to form a benchmark or measuring rod that can aid in directing organizations towards achieving high performance in priority setting (Peirson, Ciliska, Dobbins, & Mowat, 2012). No research to date in Canada or elsewhere has addressed this issue despite it being of relevance to and critical importance for decision makers who are expected to undertake the task of ethical, fair and economically feasible resource allocation.

One of the solutions to address the issues with priority settings is to develop an evidence-based approach that has its foundation on the principles of Economics (Wilson & Scott,

1995; Viney, Haas, & De Abreu, 2000; Qiu, Chen, & Ping, 2005; Jan, 2000a). One such a framework is PBMA. PBMA is a practical tool that provides decision makers with an evidence-based approach to perform priority setting and has been effectively used in the UK, Australia, New Zealand and Canada (Mitton et al., 2003a). When healthcare institutions are faced with resource scarcity and/or constraints, managers have to make decisions to either keep or forego some opportunities/projects (Mortimer, 2010). PBMA provides a tool for allocating resources to the programs that will produce greater marginal benefits. However in healthcare, the implementation of the economic approaches is criticized based on the premise that these tools fail to adequately capture the complex and multifaceted nature of health care-related decision making processes (Peacock, Richardson, Carter, & Edwards, 2007a). In response to such criticism, recent efforts have focused on better understanding the objectives and utility functions of these frameworks (Mitton et al., 2003a; Jan, 2000b).

1.2 NOVA SCOTIAN CONTEXT ON THE DECISION MAKING AROUND PSRA

In the 2011/12 fiscal period, healthcare transfers from the Nova Scotia provincial government were frozen, which translated into a 7% reduction in funding at the IWK Health Centre in Halifax. This reduction occurred in the context of increasing service demands and inflationary cost pressures. The Health Centre used usual business planning means to reduce its budget. The resulting financial ‘spreadsheet’ exercise focused on individual unit financial performance rather than an integrated, systems view of strategic priorities and associated resource allocation. The organization heard from physicians,

allied health professionals, support staff and all levels of management that the strategies identified to address the budget shortfalls were not the strategies they would have identified, if asked. For the 2012/13 fiscal period, the IWK faced a further budget shortfall that equaled a 3% reduction in health transfers from the provincial government. So, the IWK Executive Leadership Team (ELT) had begun a search for an innovative approach- one that was aligned with the strategic priorities of delivering the best care, and one that promised the best value through the introduction of a formal, evidence-informed resource allocation. The PBMA was identified and implemented to assist the organization in achieving strategic goals by providing a methodology for identifying both disinvestment and investment options. Through the PBMA process, the organization sought to engage frontline staff, including physicians, clinicians and operational staff, to focus on their practice and to harness ideas for change from the bottom up, and to ensure that disinvestment and reinvestment decisions were aligned with the Health Centre's strategic plan.

As described, the IWK Health Centre could be viewed as an 'early adopter' in developing and implementing a more rigorous, evidence-informed approach to PSRA. While highlighting this initial experience at IWK, it must be stated, however, that there is a clear and wide knowledge gap in existing evidence and accepted practices for applying currently available resource allocation decision making methods. The gap arises due to the difficulties in identifying evidence-based practice, and further relates to the organizational culture and stakeholders engagement and perspectives. The proposed

project seeks in part to analyze the policy adopted by the IWK Health Centre to implement PBMA as a formal, explicit framework for the decision making around PSRA.

The research undertaken here also unearths how the unique structure, needs and culture of health care organizations impact implementation and evaluation of formal priority setting processes, and examines which approaches can be identified that best meet resource allocation needs in this setting, noting key organizational and cultural challenges. It should be re-iterated that this research does not intend to show that PBMA is the 'best' option simply because that was the instrument of choice at IWK, rather, the intent is to build on the experience at IWK and put forward guiding principles when considering a formal PSRA decision making process, as well as to understand the potential factors that determine the success of such initiative.

1.3 STAKEHOLDER'S PERSPECTIVES ON THE CHANGE MANAGEMENT PROCESSES

The stakeholders define the 'culture' of the organization. The organizational culture in turn dictates the success or failure of trend-changing initiatives like the PBMA. In simple terms, culture tells *how the things are done* in an organization. Organizational culture is a specific collection of values, norms, beliefs, rituals and/or traditions shared by the people and groups in an organization (Kotter, 1995; Kotter, 1990). Culture guides the organizational policies and represents the dominant values espoused by an organization, and controls the way stakeholders interact with the others inside and outside the

organization (Kaluzny & Shortell, 1987; Shortell & Kaluzny, 2006). Employees learn about culture through rituals, stories, material symbols and language. Thus, culture describes the shared beliefs, perceptions, and expectations of individuals in organizations (Shortell et al., 2006). Most organizations hold a dominant culture wherein the core values are shared by the majority of members (Ovseiko & Buchan, 2012). A strong culture, initiated through intensely held, clearly ordered and widely shared core values, dictates the acceptability of certain behaviors, and thus increases the behavioral consistency. Strong cultures that align with the organizational values help companies operate like "well-oiled machines- cruising along with outstanding execution", as people in such organizations work diligently because "it is the right thing to do" (Macleod, 2011; Cincotta, 1999).

From organizational values develop organizational norms, guidelines and/or expectations that prescribe appropriate kinds of behavior by employees in particular situations and control the behavior of organizational members towards one another (Kotter & Schlesinger, 1979; Kotter, 1995). This type of culture guides the behaviors of the stakeholders, in apparent and sometimes unnoticeable ways, and profoundly influences the process of decision-making. At the surface level, culture can present itself as visible symbols, slogans, languages, behaviors, histories and stories, dress codes, heroes, legends, rituals and ceremonies. However, underlying these visible signs of culture, are the core values, beliefs and shared assumptions of each employee that help define the organization's culture. This type of strong culture has a unique absorptive power to congregate people (Drucker, Dyson, Handy, Saffo, & Senge, 1997; Kotter, 1990). Thus,

because of its shared nature and implicit understanding about organizational norms and values, culture can have a dramatic effect on efforts to change specific procedures or processes (Shearer, 2012; Schneider, Ehrhart, & Macey, 2012). Any deviation from such established cultural norms and practices at the organizational level is usually greeted with resistance from the stakeholders. For this reason, any change processes that bear a potential to affect the engrained traditional practices must consider the organizational culture and its possible impact. A change process built upon the foundation of existing culture stands a better chance of being successful.

Many studies thus far have shown that very often a strong organizational culture, that becomes misaligned with the organization's strategic vision, poses major problems in implementing strategic changes (Pololi, Kern, Carr, Conrad, & Knight, 2009; Boan, 2006). Organizational culture is viewed as a barrier to change and often touted as a reason for the failure of change initiatives. Not surprisingly, many rightfully believe that "culture eats strategy for breakfast". For example, Kotter (Kotter, 1995) cites the inability to anchor change initiatives in the organization's culture as one of the primary reasons that resists change. However, many scholars believe that this problem can be addressed by mapping on the shared values, wherein change initiatives can be built upon existing cultural norms. Change in the organization is like excavating the ground (symbolizing the change in culture) with an excavator (the change process). If the excavator sits on a bigger platform (more of cultural values carried forward) then it can dig more efficiently. However, if the same excavator sits on a smaller platform (fewer values carried forward from the existing culture), it will be less stable, and thus it will be harder to perform the

excavation (to induce change). Other aspects of culture such as resistance to change, ingrained attitudes, lack of understanding and poor communication are also associated with the failure of strategic change implementation (Boan, 2006).

In healthcare environment, culture has been associated with several elements of organizational experience that contribute to the various dimensions of the quality patient care (for example: nursing care, access, accountability and patient safety) (Boan, 2006). Most of the healthcare organizations have strong cultures regarding the ways in which health care is delivered, and the way by which hierarchy and power is maintained (Macleod, 2011). Many professional values affirmed over centuries and ingrained into healthcare systems have established strong cultures and subcultures. For example, physicians are used to certain autonomy and higher authority over other professionals; thus, any strategic changes that involve tampering with these cultural practices are met up with resistance from physicians. These types of established cultural norms represent major impediments in the process of restructuring and reorganizing of healthcare systems.

The experts on change management believe that the success or failure of the change implementation is related with the "readiness" of the organization for such change (Bess, Perkins, & McCown, 2011; Mustain, Lowry, & Wilhoit, 2008; Weiner, 2009; Weiner, Amick, & Lee, 2008); the higher the readiness, the better the chance of being successful at the implementation of change. Specifically, the readiness for change refers to organizational members' shared resolve to implement a change and shared belief in their

collective capability to achieve the objectives of that change process (Weiner, 2009). If the existing organizational culture fosters the constant readiness, then the stakeholders feel more efficacious and perceive the proposed changes as an opportunity to achieve higher efficiency. In the organizations which promote a constant readiness for change, organizational members are more likely to initiate change, exert greater effort, exhibit greater persistence, and display more cooperative behaviour, resulting in more effective change initiative implementation (Weiner, 2009).

In the context of change initiatives aimed at implementing the evidence-based resource allocation process, the readiness for change could play a pivotal role. For example, if the institutional culture fosters constant readiness for change, there will be a lower resistance from the stakeholders for such process and they will be more willing participants. Such a state of readiness can be initiated through thorough, relevant and comprehensive communication between various members and stakeholders of the institution (Hauck, Winsett, & Kuric, 2012). When members see that the organization is faced with mandatory budget cuts, and that the proposed change is a fair and ethical way of achieving those budget cuts without compromising patient safety or care, they will buy in. An organization that thrives on constant readiness and believes in appropriate communication will have a better chance of implementing the PBMA process in a successful manner. It is anticipated that the findings from this study will uncover information on the practices that can initiate the constant readiness for change at the IWK in the context of evidence-based resource allocation.

Increasing evidence suggests that the consideration and subsequent management of the stakeholders' perspectives leads to the improved healthcare delivery. For example, it has been shown that improving the working conditions significantly improves the quality of services in a healthcare organization (Glisson & Hemmelgarn, 1998). Organizational support for hospital staff is known to affect job satisfaction and burnout as well as quality of patient care (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002). Organizational culture promoting patient and staff safety has been known to establish higher standards of patient care (Aiken et al., 2002; Aiken, Sochalski, & Lake, 1997). Such supportive organizational culture is often cited as a key component of successful quality improvement initiatives in a variety of industries, including healthcare (Boan, 2006). Appropriate cultural practices can establish organizational constancy and stability, leading to streamlined processes that promote higher effectiveness and performance (Persaud & Nestman, 2006; Shortell et al., 2006; Kaluzny et al., 1987). Very often, the organizational cultures prevent the organization's adaptation to the changing environment and unknowingly hinder the organizational effectiveness. However, strategically planned cultural change, along with structural reorganization, can become a prescription for healthcare system reform. This type of reform was exemplified in the UK, where centralized administration of a healthcare system allowed opportunities for a "top-down" approach that promoted new shared vision, beliefs, values and, most importantly, newer working relationships between health professionals. These studies suggest that the perspectives of the organizational stakeholders can affect organizational performance and effectiveness in both positive and negative manners.

1.4 IMPORTANCE OF EVALUATING THE "SUCCESS" OF THE PBMA INITIATIVE

The aim of any change management project, including the ones concerned with the implementation of the PBMA process, is to achieve a successful uptake by the relevant stakeholders and/or change recipients. This is an important step in the implementation of a change process. In his classical 8-step change implementation framework (Appendix A), Kotter explains that the leaders of the organization should advocate and aim for short-term wins to institutionalize long-term change implementation (Kotter, 1995). These short-term wins can be achieved by understanding the perspectives of the stakeholders on being successful in a new initiative in the organizational context. The success, as defined and acknowledged by all the relevant stakeholders, rewards the change recipients with a “the pat on back”, helps fine tune vision and strategies, undermines cynics and self-serving resisters, keeps bosses on board, builds momentum, and above all, provides evidence that the sacrifices are worth it (Kotter, 2012b; Kotter, 1995). By understanding the factors that are associated with success of the initiative, the organization can modify systems, structures and policies in alignment with the strategy. These efforts help the stakeholders see the connections between the traditional and new ways of doing business, and further facilitate the anchoring of new changes in the organizational culture. Collectively, these processes create a high-performing organization. In the absence of such recognition of success, change initiatives have less chance of being accepted by the change recipients. Thus, for the Canadian healthcare institutions, it is imperative to

understand the factors that dictate the success in their own context to facilitate the practice of evidence-based PSRA.

However, defining "success" for health-care related resource allocation processes is hard. Not surprisingly, studies thus far have produced conflicting views and definitions about the success of priority setting processes (Mitton & Donaldson, 2003b; Peacock et al., 2006; Mitton & Donaldson, 2003a; Berry, Hubay, Soibelman, & Martin, 2007; Sibbald, Singer, Upshur, & Martin, 2009). Nonetheless, most of the studies agree that the perspectives of the stakeholder is a key element while defining success of the priority setting process (Dionne, Mitton, Smith, & Donaldson, 2008). For example, the priority setting processes of the PBMA involve the managerial (*e.g.*, executive leadership team members, directors, managers), and front-line workers (*e.g.*, physicians and nurses); both of which can have varied perspectives on the definition of success. For the managers, the success could translate in terms of making sure that all the programs are funded; while for the physicians, the success could mean that the new process is able to provide all the necessary health services without compromising the quality of the health care. Different stakeholders can have their own definition about what is successful and what is not. Indeed, the process of priority setting in healthcare system is very complex as it deals with inter-related, closely competing interests with potentially enormous implications that can affect the health-related outcomes. This complexity demands the use of fair and, most importantly, ethical processes to advocate the allocation of available resources. These processes, in turn, affect the definition of success for the resource allocation process.

Thus far, attempts have been made to define success using the criteria like economic evaluations, checklists based on ethical and pragmatic principles or ethical

standards and frameworks based on outcomes. On their own, these studies cannot provide comprehensive information on the success of a priority setting process at an organization; together however, these studies lay the foundation for defining success. Recently, a conceptual framework defining successful priority setting was generated and implemented to address this deficiency (Sibbald et al., 2009; Sibbald, Gibson, Singer, Upshur, & Martin, 2010). In this study, the authors utilized the evidence from three well-documented empirical studies to formulate a framework to “success” for evidence-informed PSRA (Appendix B). This framework describes successful priority setting from the perspective of decision makers, priority setting scholars and patients, and is intended to provide guidance for the health professionals interested in evaluating successful resource allocation processes. In this study, I will utilize this framework to define "success" from the perspective of the decision makers at the IWK Health Centre.

CHAPTER 2 RATIONALE AND OBJECTIVES

In this context, the broad focus of my project will be on elucidating the perspectives of the IWK decision makers about the success of the PBMA process. Specifically, I will:

Explore the stakeholders' perspectives and experiences regarding the implementation of the PBMA at the IWK Health Centre in the context of existing organizational culture, and identify the factors that impede or promote the "success" of the evidence-based resource allocation process at the health care institutions.

CHAPTER 3 RESEARCH METHODOLOGY

3.1 POSITIONALITY AND CHOICE OF METHODOLOGY

As a researcher, I positioned myself with a lens of a system administrator to understand the perspectives of the IWK stakeholders on the implementation of evidence-based resource allocation. I have been trained (and working) as a basic medical science researcher for last 15 years, with added skills in the field of health administration. During this period, especially as an administrator, I have had privilege to work with various stakeholders of the healthcare system including physicians, nurses, administrators and researchers. These opportunities provided me a front row seat to witness the interactions between various stakeholders of the Canadian healthcare system as it happened in real life scenarios. I believe that my experience with these stakeholders has provided me with an ability to understand, appreciate, critically explore and ultimately choose the appropriate methodology in health research. Following a thorough consideration of both qualitative and quantitative methods of research, I have chosen to employ qualitative research methodology to evaluate various factors that influence the success of the PBMA process at a healthcare organization.

To understand the perspectives of the IWK stakeholders on the implementation of an evidence-based resource allocation process, the narrative enquiry methodology was used to capture the narratives of the participants. The narrative enquiry method of qualitative research governs a capacity to understand human behavior and further allows for the

dissection of the factors which endow such behavior. In simple terms, qualitative research asks the questions like 'why' and 'how' about the observed phenomenon, instead of just studying 'what', 'when' or 'where' of it (Creswell, Fetters, & Ivankova, 2004; Creswell, 2013). Narrative interviewing elicits the stories lived by the participants through their own narration and thus is typically more unstructured than structured, with participants allowed to present the chronology and meaning of their experience as they understand it. Through this process, narrative enquiry represents a valuable tool to gather the information on the perspectives of the change recipients that undergo a change of practice following the implementation of new policies. As quoted by Thomas Kaplan, “Narratives are thus useful to the actual process of planning and policy analysis, not just to the communication of the results of these efforts. By requiring beginnings, middles, and ends, policy analysis that uses a narrative approach forces an analyst to weave together a variety of factors and come to a conclusion that flows naturally out of these factors. There can, of course, be bad stories- stories that ignore some relevant factors and get others wrong- but the best stories create a tapestry that is both lovely and useful and that helps makes sense of complex situations occurring within an environment of conflicting values” (Kaplan, 1993). Thus, it was anticipated that the transcripts prepared from the narrations of the participants of this study would elicit the perspectives of the stakeholders within the context of their norms, values, beliefs and their physical, social and cultural environments in the context of the newly implemented PBMA process at the IWK Health Centre.

3.2 STUDY SAMPLE

This study was performed at the IWK Health Centre, Halifax, Nova Scotia. The IWK recently implemented the PBMA framework to allocate resources at the institutional level. This change initiative was driven under the portfolio of the Vice-President (VP) Strategy and Organizational Performance. The main stakeholders involved in this process included the decision makers/administrators such as the ELT members, directors and managers, as well as frontline workers including physicians and nurses. The focus of this study specifically targeted the perspectives of the decision makers. Hence, this study focused on four groups of stakeholders: the board of directors, the ELT members, directors and managers of the IWK. To be included in the study, the participants had to be full-time, IWK employee belonging to one of the four stakeholder groups as mentioned above, and someone that was directly involved in the PBMA process implementation at their respective position. In total eight stakeholders, two members from each of the groups mentioned above were interviewed for this study.

3.3 INSTRUMENTATION, DATA COLLECTION AND ANALYSIS

The interviews were held at the IWK Health Centre and were done at the convenience of the participants. An appropriate written consent was obtained from each participant before the beginning of the interview. The goal of this research project focused on understanding the importance of the stakeholders' perspectives that is usually shaped by the collection of values and norms. More specifically, this study elicited the narrations

from the participants for unearthing the knowledge and information held in their personal experiences and stories. The narrative approach draws from humanities including anthropology, literature, history, psychology and sociology, allows for the study of one or more individuals, and advocates that the life experiences can be relayed, stored, and retrieved through narratives. Lobov's thematic organization approach was used in this study to assist in understanding the PBMA implementation through the stories of the IWK decision makers (Lobov, 1972; Creswell, 2013).

In total, eight stakeholders (two persons from each stakeholder group- the board of directors, the ELT team, directors and managers) were interviewed using a peer-reviewed and Ethics Committee-approved interview questionnaire (Please see Appendix A). The interviews were audio recorded and subsequently transcribed. The transcripts were analyzed using positivist and post-positivist paradigms based on the assumption that the "social processes are reducible to relationships between and actions of individuals" (Bullock, 1999; Creswell, 2013; Polit & Beck, 2012).

Data gathered in this study captured the 'lived experiences' of the stakeholders of the PBMA process at the IWK Health Centre, and as such was analyzed "for the story they have to tell, a chronology of unfolding events, and turning points or epiphanies" (Creswell, 2013). All the participants of this study provided exhaustive and comprehensive narrations about their experiences with the implementation of the PBMA. All the transcripts were searched for two themes (components of the PBMA process and dimensions of the outcomes of the PBMA) and ten sub-themes (for complete list, please

refer to section 4) through iterative rounds of coding. The coding and thematic analysis was performed mainly by myself, and then crosschecked with another researcher with an expertise in qualitative research. The thematic analysis of the collected data was guided by the recently validated and published success-defining framework, and focused on extracting the concepts from the data collected at the IWK Health Centre in individual themes (Sibbald et al., 2010) to capture various the context-specific dimensions of the evidence-based PSRA (Please see Appendix B).

The validity of the qualitative data gathered through narrative interviews was considered, checked and confirmed using the Lincoln and Guba's perspective on data validation (Lincoln, Lynham & Guba, 1985). This approach enhances the "trustworthiness" of the data by focusing on authenticity, credibility, transferability, dependability and confirmability as the quantitative equivalents for internal and external validity. In this study, such validation was achieved through triangulation and auditing of data sources, methods and investigators. Of note, the themes and subthemes used in this data analysis have already been validated during the generation of the peer-reviewed framework used in this study (Sibbald et al., 2010). Together, such an approach is known to facilitate the acceptance of the qualitative data to a wide range of audience, including the ones with the strong bias towards quantitative approaches (Cresswell, 2013).

3.4 ETHICAL CONSIDERATIONS

The approval of the Ethics Board at the IWK Health Centre was obtained before the initiation of this study to ensure that the codes of ethics are followed and the human rights are appropriately protected. The three standard principles of ethical research—beneficence, respect for human dignity and justice were observed throughout (Polit et al., 2012). The interviews of the participants were done only after obtaining an informed consent and a participant authorization. The confidentiality of the data as well as anonymity of the participants was kept in strict confidence. Only personnel closely involved in this study have access to the research data. This data is securely stored on a password protected computer that is located in a monitored, limited-access facility contained within Faculty of Medicine, Dalhousie University.

3.5 POSSIBLE LIMITATIONS OF THE STUDY

The ultimate goal of the priority setting exercise is to allocate resources wisely and ethically to promote sustainable health care of highest quality possible (Mitton & Donaldson, 2004; Peacock et al., 2010a). However, this study does not include any health-outcome related measures to define “success” of the evidence-based PSRA. Thus, one could argue that the success of the priority setting exercise should be monitored through the lens of its effect on the health outcomes (such as wait times, incidence rate of adverse events or complications). Such analysis will elucidate the effect of the priority setting process on the health outcome (“the thing that matters!”). However, highly precise focus of this study was developed to understand the perspectives of the decision makers

regarding the success of the PBMA initiative. In the future, studies can be carried out to connect the health-related outcomes as a measure of success.

Another limitation of this study revolves around the role of the frontline staff in the evidence-informed PSRA processes. It is now being accepted that the perspectives of the frontline staff should also be considered along with the decision makers to promote a better alignment towards the objectives of investment and disinvestments. However, the time constraints and the scope of this study only allowed for the assessment of the decision makers' perspectives in a given timeline. Additionally, it was rationalized that by acquiring the information on the decision makers' perspectives, context-specific factors could be identified and accordingly modified while capturing the perspectives of the frontline staff in the subsequent study. This study can guide future efforts focused on capturing the perspectives of the frontline staff. Comparison of both the sets of results would further reveal a comprehensive picture on the role of all the stakeholders in the evidence-based PSRA processes.

CHAPTER 4 RESULTS

This study employed narrative enquiry methodology of the qualitative research to elicit the experiences of the participants who recently went through the implementation of the PBMA process at the IWK Health Centre. These narratives were transcribed and then analyzed using the thematic approach. Considering the fact that the study was based on the recently published framework used to characterize the success of the evidence-informed PSRA, the analytical themes for this study were derived from the well-defined elements of the conceptual framework described in it (Sibbald et al., 2010).

Overall, the analysis comprehensively considered both ‘process’ and ‘outcomes’ aspects of the PBMA process. Thus, two main themes considered in this study included: 1) components of the PBMA process and 2) dimensions of the outcomes of the PBMA. Next, each of these two themes was divided into distinct sub-themes that were drawn from the factors known to affect the success of the priority setting exercise. The respective sub-themes within each main theme were as follows:

Theme 1. The components of the PBMA process:

1. Stakeholder engagement
2. Explicit process
3. Clear and transparent information management
4. Consideration for values and context
5. Revision or appeals mechanism

Theme 2. Dimensions of the outcomes of the PBMA

1. Stakeholder understanding
2. Shifted resources
3. Decision making quality
4. Stakeholder acceptance and satisfaction
5. Positive externalities

Considering the focus of this study on the perspectives of the decision makers, participants with the administrative roles were identified and interviewed. The narratives from these interviews were recorded and then transcribed. The qualitative data obtained this way was then categorically coded through multiple rounds of analysis for the presence of distinct themes and subthemes (as noted above).

For the purpose of this thesis, the pertinent data for each theme and subtheme has been described below in separate subsections. Each sub-section begins with the constituent elements of the respective sub-theme (as defined by Sibbald et al., 2010) and has been added here to facilitate the concrete understanding of the respective sub-theme. This strategy not only allows the reader to see the content from the validated framework, but also allows them to have it readily available as a comparative reference while going through the analysis of the data from this study.

4.1 THE COMPONENTS OF THE PBMA PROCESS

4.1.1 STAKEHOLDER ENGAGEMENT:

A validated framework (described by Sibbald et al., 2010) states that: “Stakeholder engagement refers to an organization's efforts to identify the relevant internal and external stakeholders and to involve those stakeholders effectively in the decision-making process. This should include, at a minimum, administrators, clinicians, members of the public and patients. To ensure adequate engagement, identifying and engaging stakeholders should involve multiple techniques, such as round tables, open forums, departmental meetings. There should be a genuine commitment from the organization to engage stakeholders effectively through partnership and empowerment. Stakeholder engagement is also concerned with stakeholder satisfaction regarding the level of their involvement in the decision-making process.”

The success or failure of any change process is largely dictated by the engagement of the stakeholders. Appropriate buy-in from the stakeholders, especially those directly affected by the change process, holds a key to the successful uptake of the change initiatives.

“And you need people who are engaged. To engage people, they need to see that there's going to be some benefit and not only harm to them. They need to understand that if I give now, I'm still going to get benefit because if somebody else meets these criteria and better, it's going to make the place better and it's going to make my life better. And some people will never believe that. But I think there's got to be that kind of apple and carrot rather than the stick. Because the stick that says, cut, cut, cut, cut, it doesn't work as well

as let's us figure out what it is we want to be and what we want to do and how we want to manage it, to do it.”

“I just think the main thing is you need to engage your population that you're working with, you need to incent them in some way, and you need them to recognize that it's much better to be part of the solution rather than part of the problem.”

For the change initiative such as the PBMA at the IWK Health Centre, the stakeholders included decision makers (e.g., Board members, executive leadership team members (ELTs), directors and managers) and frontline staff (e.g., physicians, nurses, etc.).

Another group of stakeholders that could be indirectly affected through the institution-wide change initiative would include general public and patients' advocates (e.g., patients themselves, their family members and their advocates). The engagement of these stakeholders was captured by one of the participants as follows:

“I think we had a really nice mix around the table because we had physicians, we had clinicians, we had physicians who were administrators, we had nursing administrators. We even had parents, which I think was really a boom to whoever thought about that. We had a consumer, a parent on the committee who would always bring us back to the right kinds of thinking. So administrators, clinicians and a nice mix.”

“So from there, really we started going out and setting up meetings with care teams and frontline practitioners to explain the concepts with them, and really engaged people at the frontline. Started calling out for ideas on what things should come forward, and then

set up an interdisciplinary, cross-sectoral committee that really looked at all of the different proposals and ideas that people came up with.”

Considering the focus of this study on the decision makers, a total of eight decision makers were interviewed, all of which were intimately involved in the process of the PBMA planning and/or implementation at the IWK Health Centre. All of the participants talked about their involvement at length and revealed that this initiative promoted critical thinking around resource allocation.

“So in terms of engaging people, to a fairly great extent, I think it was broad-based and it gave people from all over the place an opportunity to bring forward ideas that were perking along and they may have been polishing for quite a long time but hadn't had a real venue to get them into the daylight.”

Most of them positively acknowledged the fact that this was an ‘all-in’ initiative wherein all the relevant stakeholders were asked to participate and submit the proposals.

“It was truly a bottom up initiative. We were reaching out to people that did not have the opportunity to take part in these type of exercises in the past, to say, you know, share with us what you believe is an opportunity for us to achieve maximum benefit with the resources that we have available to do so, that are in alignment with our strategic priorities.”

It was further acknowledged that this initiative engaged frontline staff- especially physicians, in the process of evidence-based resource allocation.

“But it was the first time in the history of this place, to my knowledge, that physicians actively came to the table and embraced a process and got their colleagues excited about the process.”

Similarly, the importance of having patient advocates onboard was emphasized.

“The invaluable input of having parents there who really always, when we got into the little stupid nitty-gritty things, could always say, “But wait, you’re telling me X, Y, Z.” And it was like, “Oh!” Because really that person always brought us back to the focus – the patient and their family is in the middle. Okay? We’re kind of delving off now on protecting ourselves and being provider-focused. We need to get back to that. She didn’t always know the right answer. Sometimes she couldn’t take herself away from only the patient focus and thinking of the... But she brought us to what it is we...what is our business. So I think the importance of continuing, if we’re going to do something, at all the levels, having patients’ voices heard is really important.”

It was made sure that the proper resources and channels were in place to enhance the engagement of all the possible stakeholders.

“We were very clear and spent a lot of time meeting with large groups, small groups, individuals, physicians, anyone and everyone that wanted the opportunity or would give us the opportunity to come speak to them about what the PBMA process was, what it meant for the organization, and what we were asking of them.”

It was understood that stakeholder engagement is a critical factor for the successful uptake of the PBMA implementation at the IWK Health Centre.

“And I think that's one of the major things about PBMA or other administrative tools, is that it spawns creativity amongst the actual people who do the work. And is very, very much related to the engagement of those employees or colleagues or what have you. So I think that that's something we haven't done a very good job of historically. And there's an awful lot of planning being done centrally or distantly. And the people would always complain about why we do it this way. And so the whole positive thing about PBMA and other similar things is that it allows and encourages that innovation comes from the frontline users.”

4.1.2 EXPLICIT PROCESS

Sibbald et al., 2010 state that: “An explicit process is one that is transparent, not only to decision makers, but also to other stakeholders. Adhering to a predetermined process can enhance trust and confidence in the process. Transparency means knowing who is making the decision as well as how and why the decision will be made. Communication needs to be well coordinated, systematic and well-planned. All stakeholders (internal and external) should be probed for information relevant to the priority setting decisions, and information should be communicated effectively using multiple vehicles (town-hall, departmental meetings, memos, emails, etc.).”

All the stakeholders interviewed for this study agreed on the fact that the process for the PBMA initiative at the IWK Health Centre was transparent.

“I would say it was explicit. I would say it was transparent”

“I thought it was something that we should continue to undertake because it was the fairest way I'd ever seen us talk about resources”

The stakeholders were informed of the PBMA initiative through various channels, provided with underlying theoretical background including the principles of Economics underlying the initiative, asked for their perspectives and opinions, and then probed for any queries and suggestions.

“I thought it was well-handled because it really got out to the frontline and informed people that this is the direction we're going. But it gave opportunity for dialogue so that people could provide their perspectives, questions, what were they suspicious of, so that we could understand the general sentiment and readiness in the organization.”

“There were lots of open meetings around what the process would be, what the expectations of the outcome of the process would be, that it would be used in a manner that tried to be equitable and tried to be, I use the word fair across the portfolios in terms of saying what can we invest in and what do we have to diminish our investment in. So there was lots of education. There was clarity around that. There was good discussion.”

“So from a process perspective, I believe it was very explicit and transparent as to who was involved, who was responsible for making decisions and recommendations, and who was responsible for approving those recommendations. And I believe that was clearly articulated to the organization.”

“So I think it was transparent. One reason I think that is because we did a lot of communicating about it. We did a lot of talking. We focused on specific groups, you know, like physicians, to make sure that they were included, etc.”

All the relevant stakeholders, including the frontline staff, were consulted to gather all the ideas on investment and disinvestment proposals.

“We knew what the process entailed.”

“I think people were heard. And when they had a rationale for what their concerns were, those things were put into the mix and tried to be considered. So that we weren't just ignoring feedback and opening ourselves up to a potential blind spot or a major error or whatever.”

The implemented process followed a prescribed framework that was based on evidence, and was perceived to be structured, equitable, fair and defensible.

“I think what I think is different is that we have a fairly structured process to go through that is thoughtful and that is based on opportunities as opposed to our traditional business planning approach which is very different.”

A defensible process that's fair and equitable is better than one that is viewed as an old boy's network. Something that you have everybody from all areas sitting together to do allows discussion to happen and for people... And I think one of the responsibilities on the people of the group is not to go back and say, "We did this one and this one," but to say, "I was there at this process. I agreed with that".”

4.1.3 CLEAR AND TRANSPARENT INFORMATION MANAGEMENT

A validated framework of Sibbald et al., 2010 states that: “Information management refers first to the information made available to decision makers during the priority setting process. This includes what was used and what was perceived to be lacking. Second, information management considers how the information was managed, including how it was collected and collated. Relevant information includes, but is not restricted to: health outcomes data, economic data (such as cost effectiveness analyses), community needs assessment, current policies or policy reports, and the experiences of both clinicians and patients.”

The stakeholders were provided with relevant information on the PBMA process itself through various channels of communication.

“So we received a component of education in advance so that we would understand what the process was. Which was actually very, very helpful.”

The importance of the evidence-based decision making surrounding the resource allocation was promoted throughout the organization and was acknowledged and appreciated by the stakeholders.

“Well, because we thought it was an evidence-based practice. And in order to gain more evidence about resource allocation, we wanted to use an evidence-based process. And certainly the work that Craig Mitten et al. have done and have published led us to believe that it was a very solid, evidence-based process that we could generalize or apply to the

IWK, and that we would get some very reliable results if we followed the steps and did it properly.”

One of the deficiencies identified was the lack of direct cross-talk connection between various system components through emerging technological platforms. For example, one of the participants suggested that the PBMA process should be linked with a health technology assessment process to facilitate the decisions around allocating resources at the system’s level.

“And I would like to see this process hooked up with a health technology assessment process so that you can kind of manage... And I think in some provinces, they are doing some of that.”

The rationale of the PBMA process made “common sense”, and was perceived as “transparent”, “information and evidence-based”, “fair”,

“I thought it made common sense actually.”

“So it wasn't a leap of faith for me to understand that there may be another way to look at resource allocation in a way that is transparent and relates to some form of knowledge or information-based.”

In the face of on-going budget cuts and resulting scarce resources at the institutional level, the PBMA framework was looked at as a “strategic initiative” and accepted as a tool to facilitate difficult conversations around the tough decisions regarding ‘what to and what not to fund’.

“... there were fiscal and economic pressures at play at the provincial and organizational level that were going to result in the IWK having a decrease in the resources available to deliver care and service to the patient population that we serve. And we needed to understand how to make very difficult decisions on what we could and perhaps could not do if that decrease in resources became a reality. So PBMA became, again, a transparent and rigorous framework to facilitate those difficult conversations and inform the difficult decisions that needed to be made from an evidence-based perspective. So it was a strategic initiative in nature. The IWK recognized a strategic opportunity and introduced PBMA as a result.”

At the same time, specific efforts were made to communicate that the PBMA was not a replacement of a business planning exercise.

“This was not a replacement of a business planning exercise, nor was it communicated as such to the organization.”

The evidence-based nature of this resource allocation process was considered to be rigorous, and appropriate in ethically “defending” the decisions around investment/disinvestments.

“... I think that exercise of evaluative investment or disinvestment is now part of our culture. And I think it's brought a rigor to the organization in terms of making funding decisions both in terms of investment and disinvestment. Which we kind of did but we couldn't explain why we did. And now I think we have tools to better explain why those

decisions were made, what it was based on, and what the expectation of the outcome was.”

4.1.4 CONSIDERATION OF VALUES AND CONTEXT

A validated framework (as described by Sibbald et al., 2010) states that: “Values and context are important considerations in any priority setting process, including the values of the organization, the values of staff within that organization, and the values of other stakeholders (such as patients, policy makers, politicians, and members of the community). The mission, vision and values of the organization should guide priority setting. Priority setting decisions should be based on reasons that are grounded in clear value choices, and those reasons should be made explicit. This also involves not only looking within the organization at previous priority setting decisions, but also studying what other health care organizations are doing. This would involve looking at organizations in the local community, at other health care organizations with similar mandates, as well as looking at the other levels of health care provision. Context is distinct from values and considers the organization's goals in the health care environment, as articulated in its strategic directions.”

All the participants of this study agreed that the PBMA process thoroughly considered the values, the mission and the vision of the IWK Health Centre during the conception, consideration and implementation phases. At many instances, participants echoed that discussions around the resource allocation were guided by the organizational mandate,

and that the organizational values helped the stakeholders carry out difficult conversations around scarcely available resources.

“But I think that working here at the IWK, you'll appreciate that the culture is fairly established and I think that the values that people share with respect to the organization permeate most all activities.”

“But the values that went into it were reflective of the values that we generally would hold.”

“So when it came time to the PBMA table, what was really interesting is we started to live that tension and we started to question, well, is this really who we are? Is this really what we want to be doing? If we make this decision based on all of the evidence, how does it reflect the branding, which is part of the culture and the ethic of who the IWK is, not just externally to the public but internally to us as employees and leaders within the organization? So what I found valuable about that discussion was to see us working out the tension at the table. But I would definitely say that, you know, our brand, who we think we are, but our organizational culture and values were very much at play in the decision-making.”

“So you see some of that dialogue or discussion happen about how do we embed our values and our cultures into the decisions that we make and do our decisions reflect those?”

Some explicitly acknowledged the possible detrimental effect of organizational culture on the strategy (as the saying goes: “culture eats strategy for breakfast”)

“But at the IWK, we kind of are in the habit of paying close attention to the culture because we know it can eat strategy, as I say.”

Additionally, a crucial role of the frontline staff in shaping the organizational culture and developing institutional values was realized, appreciated and counted upon.

“So I think that's a reflection of understanding that the wisdom is in the frontline people who are doing the work. They're the experts. They know where the opportunities are. And so it can't come from above. It needs to come from the people who are doing the work. And I think that's a very strong organizational value that we have and we always need to be working on it.”

Similarly, the strategic priorities of the IWK Health Centre, as defined within its mandate were used as a guiding framework for the discussions around allocating resources.

“This was a strategic opportunity ... to better align our priority setting and resource allocation framework for decision-making with the strategic priorities that the IWK had set out for itself as part of its strategic plan. So, a) it was a way of examining how our resources are currently allocated and are they allocated in alignment with what the organization has communicated its strategic priorities to be. And secondly, if the answer to that was, well, there was opportunity to improve that, this initiative provided a transparent and rigorous framework to achieve that reallocation according to better match the strategic priorities of the organization.”

Further, participants also appreciated that the alignment of organizational culture with an evidence-based resource allocation framework like the PBMA process was great for promoting stakeholder engagement and innovation/creativity.

“If you have an environment that allows an engaged group of clinicians or other healthcare workers to sort out the problem and encourage them to do so, reward them in some way, you'll get all the information and all the creativity you ever need.”

Finally, this initiative was looked upon as a scientifically valid methodology and as something that has a positive effect on the organizational culture, and something that is able to curtail the system-wide cynicism around the traditional ways of resource allocation.

“I think the biggest thing in my opinion is that I think basically it's a culture shift. I think that people who work in frontline healthcare often are cynical of decisions that are made. In this instance, they're a part of those decisions. And I think that changes the whole perspective that they would have. And I think that just being encouraged to think about how we do business, how things...how much they cost, why do we do them? We've done this for years and years. Is there a better way? And I think rather than having people at the frontline wait for someone to tell them to do something, they become creative themselves and say, well, it's ludicrous to do it this way, why don't we do it that way? And if you then worked together with the various team members, depending on whatever their level of ability to input, whether it's input into the local culture, the local way of doing business, whether it's bringing other information from other institutions. And that collaboration leads to a much better likelihood that there's going to be information that's

translated into care. And that people become aware of cost effectiveness as a principle to guide us.”

The organizational context brought down the silos between various constituent sectors in the institution and promoted discussions that were effective and beneficial for the organization as a whole, instead of just for any particular sector/department.

“I think the criteria really spoke to us and our values as an organization, and what our mission and vision was. And it was the first time that we looked at it from an organizational whole perspective versus the children's health program and the women's health program and mental health. And that we all had to be brought at the same table and having all of these discussions on what was best for the organization. In my history, that was the first time that we had done something like that.”

4.1.5 REVISION OR APPEALS MECHANISM

Sibbald et al., 2010 state that: “A revision process is a formal mechanism for the review of decisions, and for addressing disagreements constructively. Such a mechanism is important to ensure the priority setting process rules and requirements are communicated clearly ahead of time. The dual purposes of a revision process are to: 1) improve the quality of decisions by providing opportunities for new information to be brought forward, errors to be corrected, and failures in due process to be remedied; and 2) to operationalize the key ethical concept of responsiveness.”

For the IWK Health Centre this was the first time the PBMA framework was used to guide the decision making process around resource allocation. The process itself contained various mechanisms headed by constituent stakeholders to ensure effective oversight.

“There was quite a lot of oversight. And that was part of the job that I was doing in the whole system, I and others, in that there was this advisory group. And there were lots of details that got bandied about, and value judgements in terms of what things to encourage and what things that, you know, were sifted through, many ideas. I think there was pretty good oversight, yes.”

The IWK had mechanism in place to resolve the conflicts at the stage of the proposal submission and evaluation. The steering committee did oversee all the concerns and provided the feedback accordingly to resolve the disagreements constructively.

“... conflict was typically resolved in a respectful manner. Everyone was under the understanding that, you know, the debate that took place was with the best interest of the organization at hand, and that there was no personal agendas at play. And I believe as difficult as that was to do at times, to leave your personal biases at the door, the working group members did a tremendous job of doing just that. Outside of the working group, if there was conflict or disagreement within the health centre as to why we were doing this initiative at this time and the amount of work that it was causing, a more informal approach was taken to dealing with that conflict.”

The decision makers involved in such conflict resolution process found the process to be helpful, and the related group to have a “balanced perspective” from the perspective of various expertise on the evidence-based resource allocation in health care setting.

“So we got to kind of fight and argue a little bit and debate the finite points. But it did allow us to get to the kernel of what the essence of the discussion was and what was...how this related to the importance of investment or divestment in whatever the initiative was. So I do feel like we had that opportunity. And again, going back to the point that I made earlier, there was a lovely balance of perspectives around the table. That when somebody got too far down one road that somebody would say, wait a minute, wait a minute, this is really what we're talking about. Let's go back to this aspect of the decision. So I found that to be a balanced perspective.”

Decision makers also appreciated that the discussions around various investment and disinvestment proposals around the table brought forward the best possible use for the available resource/s amidst the apparently non-aligned stakes from various shareholders.

“So at the committee level, I would have to say there were rousing discussions because not everybody agreed on everything. And I think that was a strength of the PBMA.”

At the same time, however, participants suggested that there be a prescribed process in place to address various concerns from the stakeholders regarding relevant submissions in a consistent and objective manner.

“At the steering committee, concerns or anything that people felt...like decision-making that people weren't agreeing on, we had a lot of conversation around the table. I think

that we should have thought proactively about a process being put in place so that each concern or each decision-making would be dealt with in this particular process. I don't think we had an outlying process per se, saying, okay, if a concern comes forward that this is the process that we will follow. As concerns came up at the steering committee, you know, we would have discussions about them and then trying to figure out, okay, what do we do with this concern or what do we do with this decision?"

"So the PBMA committee made the decisions, and then we went to implement them. And when we started implementing them, there was some pushback. I'm not sure whether there was a spot for us to go other than work it out amongst ourselves. At that point in time, we couldn't really... I didn't see that we could go back to the committee and actually sit down and justify why we could or could not."

However, it was generally anticipated that, similar to any other change process, the implementation of the PBMA at the IWK Health Centre would initiate varying perspectives from different stakeholders, and that the consideration of this feedback is essential to promote better buy-in as well as uptake from the change recipients.

"I think that's just absolutely normal with any change, and we're always changing. So there's always varying perspectives. I think people were heard. And when they had a rationale for what their concerns were, those things were put into the mix and tried to be considered. So that we weren't just ignoring feedback and opening ourselves up to a potential blind spot or a major error or whatever. So I think opinions and perspectives were encouraged and received rather than squashed."

4.2 THE DIMENSIONS OF THE PBMA OUTCOMES

4.2.1 STAKEHOLDER UNDERSTANDING

A validated framework (as described by Sibbald et al., 2010) states that: “Stakeholder understanding implies more than basic knowledge of the process. It assumes stakeholders have gained insight into the priority setting process (e.g., its goals, rationale and rationale for its decisions) and/or the organization (e.g., mission, vision, values, and strategic plan). As stakeholder understanding increases, stakeholder acceptance and confidence should also increase.”

The PBMA was understood to be an evidence-based framework to facilitate priority setting and resource allocation, especially in the context of current provincial and federal funding cutbacks.

“So PBMA became, again, a transparent and rigorous framework to facilitate those difficult conversations and inform the difficult decisions that needed to be made from an evidence-based perspective.”

Additionally, PBMA also provided a new lens for resource allocation that was based on the principles of Economics.

“And that people become aware of cost effectiveness as a principle to guide us.”

Further, stakeholders accepted the PBMA framework to be an improvement over the traditional ways of resource allocation.

“It was kind of to distribute the money more fairly throughout the organization. Because historically in the past, if you had a little bit of extra money, you wouldn't tell anybody. You would use it yourself and do something different within your area. Which that might not have been the best gain for the whole health centre organization. If that money had been moved to another area, it might have been better gain or better utilized.”

The conception, consideration and implementation of the evidence-based resource allocation through the PBMA framework had a vast impact on how the relevant stakeholders understood this process- especially in the context of how the limited resources should be prioritized and subsequently allocated in an ethical, fair and economically sound manner.

Many participants understood the PBMA as a strategic tool to identify opportunities and accordingly invest/disinvest, even when they were not necessarily familiar with the actual process in the beginning.

“Well, I wasn't familiar with the structure of the process of PBMA itself because this was the first round. So even just learning more about the particular framework and approach, that was all new to me. I was familiar with general trade-offs and resource allocation decisions. But having a real process that... It's more of a deep dive, I guess, because you're looking for strategic opportunities that can be anywhere as opposed to, you know, driven by a dollar amount that you have to come up with. It's more of a more detailed process. And it's not driven on one particular line. It can come from many origins.”

Further, it was acknowledged that the PBMA experience allowed the stakeholders to identify and prioritize the possible options, often competing interests.

“I think I know about this process. I think it is an example of a process. I think what I heard and what I learned more about priority setting is that we all want to set priorities for the same reason. And we all want to set priorities because we want to do the best care we can. And if there's competing priorities, having a process is better than not. I think that's what I learned.”

Importantly, the learning experience from the PBMA initiative promoted the message that such an evidence-based practice, when woven into the fabric of the organizational culture, promises to improve the excellence of care and the system-wide performance.

“Being careful that this is not in terms of saving money. This is a term of using resources to the best advantage. And to look at it and say we need to always use resources – that's people and materials and places and things – to the best advantage, not just when we're short of money. So this isn't just a way to save money. It's not a way to figure out how to do anything but improve the excellence of care that you can with what you have.”

While being involved in the discussions around various competing health system related issues, participants also understood that the scarcity of resources forces the system to make tough decisions. It was understood that, as a publically-funded healthcare system, we do not have the luxury of funding every possible option. In this context, a role for a medical ethicist to guide such discussions was suggested.

“I think the day is going to come in healthcare when we're going to have to be making those kinds of decisions. And culturally, going back to your question about culture within our organization, that isn't a discussion that we're comfortable having. And saving and caring for at all costs is always our mindset, you know, for many health professions. But we're not in that... We don't have that luxury anymore. So it's moving towards not just the evidence, not just the research that tells us certain things, there's also a medical ethical lens that will come into play there. So if I was going to advise another organization, is also to be starting to have dialogues around the medical ethics of some of those decision-makings. That there is a health economic perspective. Don't lose the medical ethical perspective.”

Finally, people understood that the use of available resources appropriately/innovatively is equal to having more resources, and that these prioritized resources can promote better patient care.

“For 20 years, they all thought we need more resources. And when we appropriately managed the resource we had by reassigning and redeploying resources based upon matrix that we had agreed upon, we found out we didn't need more resources. So that's the same as having more resources. And we never changed. And people understood what the resource base was and how using it effectively was better for everybody and better for patients particularly.”

4.2.2 SHIFTED RESOURCES

Sibbald et al., 2010 states that: “A successful priority setting process results in the allocation of budgets across portfolios, changes in utilization of physical resources (e.g., operating theatre schedules, bed allocations) or possibly changes in strategic directions. Effort that does not result in change may encourage the perception among stakeholders that the process is an inefficient use of time or is done for the outward appearance ('window-dressing') of predetermined outcomes. A reaffirmation of previous resource allocation decisions (e.g. the previous year's budget) may, in some circumstances, be seen as a success.”

It must be understood upfront that the goal of the evidence-informed PSRA framework such as PBMA at a publically funded healthcare organization like the IWK Health Centre is not to save money, *per se*, but rather to allocate all the available resources in a manner that maximizes the health care-related gains/outcomes. Thus, one of the main objectives for the implementation of the PBMA framework at the IWK Health Centre was to strategically set priorities and efficiently allocate available resources in the context of organization-wide need. At the time, the IWK Health Centre was faced with budget cuts, and needed to make decisions about distributing finite resources without compromising the quality of patient care or safety. Traditionally, the shifting of resources during such scenarios was done by handing down ‘across-the-board’ cuts. This practice does not consider the current needs of specific departments/populations and also hinder the innovation. However, application of the evidence to perform the same functions of resource allocation using the PBMA framework provided a scientifically valid process to shift the resources and allow for creative operational ideas of varied magnitude.

“There are operational changes that took place as a result of the proposals being implemented. And those varied in number and from a size of the impact that those proposals had. They varied throughout the organization. But people still speak of, well, this was done because this was a PBMA proposal that was accepted.”

Participants acknowledged that the PBMA was a tool to shift and allocate the resources based on the needs of the organization rather than just for a program within the organization. Participants acknowledged that the conversations around the PBMA were focused on *“... the best decision for the organization as a whole versus program by program and doing it in silos.”*

It was also acknowledged that the discussions around and proposal submissions for the PBMA process allowed the decision makers to identify the opportunities that otherwise would not have been recognized.

“Had PBMA not come to us, I probably wouldn't have put that resource there” (p8)

“So there was some wins in it in terms of putting resources where they were really needed.”

The participants also quoted some of the examples wherein the shifting of resources through the PBMA process resulted in enhanced system performance through better patient care and decreased wait times.

“PBMA showed me that that's where that resource was needed. That's been very successful. You know, we do have evidence that it has been successful. We look at our

wait list now. We look at our referral pattern, you know, and the impact that that extra physio has had. We're at a point now where the physio sometimes is the first contact for the patient coming into the clinic, and the physician doesn't even need to see them. So that frees up their time to see other patients that they need to be seeing. So it has been very successful that way for that particular one. And it also showed me when you weighed the criteria of all the submissions we put forward, that came out as number one. So it showed me that even though my gut was saying no, the evidence was there that it was saying yes. So that was very successful.”

It was also noted that the shifting of resources through the PBMA initiative aimed at changing the previously established practices promoted produced better patient outcomes.

Interestingly, these outcome efficiencies were realized even at small magnitudes.

“So for example, we did some changes in testing, and when it could be done, and changing hours. And those did have an impact on the patient. Was it a huge impact? I mean it wasn't life or death. But did it change, you know, babies getting home earlier? It probably did.”

The shifting of resources encouraged various ideas on the system efficiencies, some of which were considered in the past but not implemented. This PBMA-driven shifting of resources produced a “lean” system.

“So our operation changed a lot because we were impacted by a lot of PBMA's. So you know, hours of work changed. Our service level changed. Our staffing level changed. I mean we lost staff. Well... So yes, things have changed. Some for the better. I think some

of the shift work and that was a better decision for the health centre. It's something that we had considered for a while anyway. So that was an easy one to put on the table. There are still impacts on the decrease in staff and the decrease in testing on the nights and evening shifts. Especially with different programs coming onboard, there isn't the capacity there anymore. We're so lean now."

The shifted resources from the process of PBMA also generated more capacity.

"I'll give you an example. We were able to get an expanded genetic testing as a result of PBMA which ultimately led to...by creating a different model and releasing resources, we were able to... And this came out of the process. We were able to get equipment. That equipment created money. It sustained the program at a better level than we had before. So that we ended up with better capacity in genetic testing than we had before, and it never cost anything."

However, the biggest shift in resources came from the positive externalities experienced and institutionalized by the PBMA initiative (more on this aspect is noted under the sub-themes 'consideration of values and context' and 'positive externalities'). Almost every single participant acknowledged that the culture of the IWK Health Centre positively shifted in favor of using the evidence in the decision making processes required at various levels of administration and clinical practice.

"But I believe that we ignited a shift in the culture of the IWK with the implementation of PBMA for the better. I believe we increased the knowledge and the capacity to facilitate

work of this nature as a result of this initiative at the IWK. And I do believe from an implementation perspective that positive change was realized.”

4.2.3 DECISION MAKING QUALITY

Sibbald et al., 2010 state that: “Decision making quality relates to appropriate use of available evidence, consistency of reasoning, institutionalization of the priority setting process, alignment with the goals of the process, and compliance with the prescribed process. It also captures the extent to which the institution is learning from its experience in order to facilitate ongoing improvement. This component is most visible as subsequent iterations of priority setting are evaluated; where consistency and building on previous priority setting would be indicative of a successful process. Institutional learning, increased institutionalization of priorities, more efficient decision making, more consistent decision making, and increased compliance with decisions (*i.e.*, 'buy-in') are all valuable outcomes of successful priority setting that are difficult to achieve. Institutional learning from experience facilitates ongoing institutional improvement, which is made more visible as subsequent iterations of priority setting are evaluated.”

The stakeholders of the PBMA process at the IWK Health Centre perceived it as a scientific tool to facilitate the allocation of resources. It was also believed that such an evidence-based process will further allow for the generation of context-specific evidence that will be based on the IWK Health Centre’s experience.

“Well, because we thought it was an evidence-based practice. And in order to gain more evidence about resource allocation, we wanted to use an evidence-based process. And certainly the work that Craig Mitten et al. have done and have published led us to believe that it was a very solid, evidence-based process that we could generalize or apply to the IWK, and that we would get some very reliable results if we followed the steps and did it properly.”

In the context of decision making around policy development and implementation, one of the most important things that the participants acknowledged was that the experience of the PBMA has imparted a different outlook to the organizational culture- one that is based on scientific evidence and one that is ethically justifiable.

“From an organizational perspective, I think again that example that I gave where a frontline staff is referencing PBMA. It is now part of the language and the culture in the organization. And whether it is something like PBMA or something different, something that's called different, I think that exercise of evaluative investment or divestment is now part of our culture. And I think it's brought a rigor to the organization in terms of making funding decisions both in terms of investment and divestment.”

The decision making processes are usually influenced by organizational culture. Similar thoughts were echoed by the participants wherein they acknowledged that this maiden experience allowed them to see how the IWK's culture reacts to initiatives like this. Most importantly, the stakeholders identified that the lessons learned from this experience were valuable in terms of guiding the decision making processes in the future.

“Again, with this being a strategic initiative, communications were aligned with, you know, the strategy, the strategic priorities of the organization. We attempted to do that. But an understanding of how an initiative such as this would be received by an organization with a culture such that is present at the IWK, we attempted to plan for that as best we can. But given again that it was the first time attempting this work, there's definite opportunity for improvement to better align with the culture. Because I believe in implementing this initiative, we learned how the IWK's culture...we learned more about it and how it reacted and responded to this type of project or work or language that was being used in the organization. I think it was well received but there's definitely opportunities in future iterations to say, okay, what did we learn about the IWK's culture and what does that mean from a process perspective on how we would execute on this type of work in the future?”

The framework of the PBMA was well-received for its capacity to provide standardized criteria while allocating the resources within the organization.

“That this was a framework that we could utilize through the business planning process and through the fiscal year to allocate resources appropriately so that we have some sort of standard criteria. That we're not just saying, okay, it feels like we should do this. Versus having something criteria-based that you could base your decisions on. And then looking at resources and trying to allocate them a little bit more smoothly across the organization so that people have the appropriate resources to do their work.”

Some stakeholders relayed that the principles of the PBMA should form the basis of the day-to-day decision making at the IWK Health Centre.

“Now, did you impact some people and yes, they're continuing to think that way?”

Absolutely. But if we were going to drive this as an initiative as an organization then we should all still be talking about those principles that underline PBMA on how we make our decisions.”

Both investment and disinvestment decisions were based on the available evidence and compared against other options in the organization. Even though each decision could not make everyone happy, it was accepted as being a fair option in the interest of the organization as whole.

“And I think that's one of the benefits of it. Because you've got a process that you can support and say, "Look, guys, you looked at the process. You know that this is the way it is. You might not like the fact that we're losing .5 here but remember, it was ranked against...in the same way against everything else." So I think people felt very comfortable being able to defend the decisions.”

Ultimately, the stakeholders agreed that the decision making processes at the IWK have been positively shaped by the PBMA implementation process.

“But I think PBMA was a turning point in the organization that said to us, this is the lens we now have to look through when we are making decisions in the organization. And I know for sure that the two...one in particular, our chief of [name of the department], every discussion that comes up around new programming, new business, change in

service, the question is always what's the evidence? Always, always. Can you tell me whether or not that there has been research done on that? What is the research? Where has this been piloted somewhere else? What's the outcome from that? You know, running through the research to kind of see...doing research polls to see what's been done, how it's been done. And that wasn't happening prior to PBMA.”

4.2.4 STAKEHOLDER ACCEPTANCE AND SATISFACTION

Sibbald et al., 2010 state that: “It is important to consider the satisfaction of all stakeholder groups, both internal and external to the hospital (community groups/public and governmental health agencies/ministries of health). Successful priority setting leads to increased satisfaction over multiple decision cycles. Stakeholder acceptance is indicated by continued willingness to participate in the process (*i.e.*, 'buy-in') as well as the degree of contentment with the process. Stakeholders may be able to accept priority setting decisions, even if they may not always agree with the outcomes.”

The long-term institutionalization of the change initiatives such as the PBMA is influenced by the acceptance of the tenets of the initiative by the stakeholders. When the change recipients and the stakeholders ‘buy-in’ to the ideology and fundamentals of the initiative, it has a better chance of being positively implemented. Such institutionalized change behaviour also leads to greater job satisfaction and allows for the newly promoted change initiatives to become part of the organizational culture.

“So I think the biggest thing in my mind personally is culture shift. And I think the awareness that we are all part of the problem, we should all be part of the solution. And I think that if people work together in that way, you're much more likely to get good solutions and good collaboration if there's been collaboration in the creation of that solution. And I think the other thing about PBMA is, and again I don't think it's limited to PBMA, but I think the idea that you actually can change something if you get together and put a little bit of the education that you have and the experience you have to work. It could lead to changes that are positive both for patients and staff. And I think that that leads to job satisfaction in that you can actually change things. And that is a very important thing in healthcare in my view because cynicism is rampant. And I think you have to combat that with involvement and engagement of the people who are involved in it. And for them to be able to see that there's a positive result.”

Most of the decision makers were appreciative of the fact that the PBMA process encouraged the participation and suggestions from the frontline staff, which they believed had a better understanding of the day-to-day business of patient care.

“But that's one of the things that I especially valued about PBMA, is that it generally came from people who are doing the work and are really the experts in that area.”

Participants also liked the fact that the PBMA framework provided them with a better avenue to think about the resource allocation, especially in the context of today's budget cuts.

“I think it's probably circling back on what I was just saying, that it reminds us again of the fact that there are opportunities all around us even when we just think, oh my gosh, it can't get worse. Then we think, well, no, it's not about worse or better, it's about lots of ways of doing things differently. I think that's the most important thing we constantly have to be reminding ourselves. And you know, sometimes, especially, you know, in a province like Nova Scotia where there have been multi-year cuts, you can sort of lose hope. And I think it reminded us of opportunities. That's the biggest thing.”

The prescribed nature of the PBMA, and the fact that it was based on the principles of Economics and rooted in the foundations of similar experiences from the health care institutions worldwide was appealing for the decision makers.

“I'm just really good with using a process that has some structure to it, that is transparent, and that has some results, some evidence behind it. I'm happy with that because random is how we've done it in the past.”

Further, the framework of the PBMA facilitated the decision making process around cut-backs, as decision makers felt comfortable using the evidence-based process while putting forward policy options, even when not everyone involved was happy with the decisions proposed.

“So I think people felt very comfortable being able to defend the decisions. Not everybody was happy with all the decisions.”

The process of PBMA also provided the stakeholders with new learning opportunities, wherein they could incorporate evidence in their day-to-day practice. Some stakeholders explicitly stated that the learnings that they acquired during the PBMA process, and the information that they received throughout, allowed them to see a broader scope for the available resources and has provided them a new tool while pursuing various decisions.

“I think it's really expanded my understanding of the broader healthcare initiatives within the IWK. And it's just given me better debating tools frankly, if nothing else, you know, which is helpful to have.”

Finally, many participants also suggested that the PBMA initiative is woven into the culture of the institution and is implicitly practiced often.

“So for me, you know, I'd give it an 8 out 10. It was a very valuable experience I think, as I said, both for me and for the organization. And I still see evidence of people referencing PBMA and that experience. So it tells me that it weaved its way through our organization.”

Interestingly, even though few participants criticized this process for requiring a big time commitment, most of them suggested that if this framework was to become part of the regular decision making process, it would be less time-consuming and would become a valuable achievement for the organization.

“So I think it's a fantastic framework and foundation. But we really have to keep at it in order to get that influence of everybody using it intuitively on a day-to-day basis versus it being a process of one time a year.”

Finally, most of the participants expressed that they were satisfied with their experience around the implementation of the PBMA framework at the IWK Health Centre and were “excited” about the possibility of using the lessons learned in the future iterations of this initiative.

“So I'm very satisfied and very excited to be able to apply what we've learned at a future iteration of this initiative.”

4.2.5 POSITIVE EXTERNALITIES

Sibbald et al., 2010 state that: “Positive externalities can act as a sort of check and balance, ensuring information is made transparent to stakeholders through various avenues, and/or establishing good practices for budgeting in other health care organizations. As an indicator of success, externalities may include positive media coverage (which can contribute to public dialogue, social learning, and improved decision making in subsequent iterations of priority setting), peer-emulation or health sector recognition (e.g. by other health care organizations, CCHSA, etc), changes in policies, and, potentially, changes to legislations or practice.”

Some of the decision makers also eluded to the fact that the IWK Health Centre also achieved “implicit” benefits or “softer” results that are known to be critical for the organizational learning processes. These positive externalities allow the organizations to flourish in the face of challenges posed by constantly changing landscape.

“The softer results, the engagement, the learning, the dialogue, all of those are extremely valuable.”

The process of PBMA also provides a tool to bridge the gap between decision makers and frontline staff in that it allows the frontline staff to look at the evidence on which the decision process was based. Furthermore, it also encourages the collaboration between decision makers and frontline staff and facilitates a dialogue to generate strategically creative solutions.

“I think the biggest thing in my opinion is that I think basically it's a culture shift. I think that people who work in frontline healthcare often are cynical of decisions that are made. In this instance, they're a part of those decisions. And I think that changes the whole perspective that they would have. And I think that just being encouraged to think about how we do business, how things...how much they cost, why do we do them? We've done this for years and years. Is there a better way? And I think rather than having people at the frontline wait for someone to tell them to do something, they become creative themselves and say, well, it's ludicrous to do it this way, why don't we do it that way?”

The discussions around the PBMA submissions institutionalized the “good ideas” that people were already doing/thinking into actual practice. This type of organizational learning behavior promotes the constant readiness for change and enhances the performance of the organizations.

“And like most everything else, when you finally rank everything and you look at what you're going to do and you put your priorities into some, by the time we even got the

ranking, some of them were such good ideas that people were already doing them. Because they were just, "Oh, we don't need approval to do this. This really is something on a team basis we could do." So we already started to see people do things at the beginning."

Also, the stakeholders felt that the opportunity to listen to the proposals from other departments allowed them to learn more about the organization and made them realize the similar possibilities within their own portfolio (and understand the reasons behind why certain resources are being allocated to those departments).

"I don't think anybody who was at that table walked away without having learned a little bit more about their neighbour and their challenges. And therefore when you learn, you have a better understanding, it's a little easier to see outside your own bubble."

However, the biggest resource that was shifted through this first round of the PBMA at the IWK Health Centre was the organizational culture. Multiple participants acknowledged that the PBMA process solidified their understanding about the use of evidence in decision making and provided them with a tool to justify or defend the seemingly tough decisions that are essential from the organizational perspective, and additionally helped reinforce a culture of evidence-based decision making.

"I think that one of the biggest takeaways from PBMA and what has changed in the organization is that people know and understand what PBMA was. I think at a strategic level, they understand why and accept why we moved forward with such an initiative. And I think that's meaningful for folks to understand what the concepts are. You know,

why priority setting and a resource allocation framework that is aligned with your strategic priorities is of critical importance to an organization. That concept of measuring value, benefit gain versus benefit lost, opportunity costs, that's familiar language to our organization now. People have an understanding of what those concepts are and what the tools that we had implemented, what they were trying to achieve. So I think that for me is one of the biggest takeaways of what's changed and what we can build upon moving forward in the organization.”

Ultimately, the process of PBMA has brought a more rigorous lens to discussions around the resource allocation decisions and enhanced the awareness of evidence-based practice across the organization.

“... it has brought a more rigorous lens around healthcare funding and decision-making. And I certainly see at the table that I sit on, the 2 leadership tables that I sit on, where there is a more rigorous analysis of cost benefit, of understanding the value of the health economic perspective, and recognizing... We've been better able to marry the passion of healthcare and health economic perspective of healthcare so that there's a good valuable overlap between those two concepts.”

CHAPTER 5 DISCUSSION

The main focus of this study was to understand the perspectives of the stakeholders, at the decision making level, from the IWK Health Centre regarding the success of the recently implemented evidence-based resource allocation framework- the PBMA.

Considering the critical role of decision making involved in such change initiatives, this study was mainly focused on elucidating and mapping the “lived experiences” of the decision makers through the methodology of the narrative inquiry.

This study focused on collecting the information on various factors that are reported to affect the “success” of the evidence-informed PSRA process (such as PBMA). A recent study (Sibbald et al., 2010) reported a tool that allows for mapping various dimensions that contribute towards the successful implementation of this process. The same tool was further evaluated in this study to assess its context-specific applicability at the IWK Health Centre. In the process, the goal was to identify the various facets that may ultimately dictate the uptake, buy-in and engagement of the stakeholders for similar change initiatives at comparable institutes. Additionally, the information from this study will also be valuable for the stakeholders of the IWK Health Centre to further enhance the utility of the PBMA in subsequent iterations, if and when it gets implemented in the future.

The data from this study revealed that the implementation of the PBMA process at the IWK Health Centre positively affected various aspects of organizations. Moreover, it was

learned that the principles of the PBMA engendered positive conversations regarding the use of evidence in decision-making. Therefore, the continued utilization of PBMA may over time serve to change the organizational culture at the IWK Health Centre in terms of the utilization of research evidence in decision-making. The next section outlines organizational constructs that were positively affected by the experience of the PBMA implementation at the IWK Health Centre.

5.1 BENEFITS OF THE PBMA IMPLEMENTATION

Organizational learning: Organizational learning is a continuous process that involves generation, transfer and retention of knowledge within the organization. Organizations learn through their day-to-day activities, and such learning is critical for keeping up with the constant change that occurs in its environment. The organizations that maintain a culture of constant learning are more efficient in sustaining the demands posed by their evolving surrounding and are therefore able to cope with change while achieving optimal performance (Persaud, 2014).

In the context of the PBMA initiative, the biggest gain for the IWK Health Centre was with regards to organizational learning. Most of the participants in this study acknowledged that the discussions and education around the PBMA provided them with newer information around evidence-based PSRA and that such information has influenced their decision making practices in a positive manner. Additionally, a majority of participants indicated that the lessons learned during the PBMA process are implicitly

practiced in their daily routine, especially when it comes down to incorporating the scientific evidence in administrative decision making as well as clinical practice.

Organizational culture: The concept of culture is particularly important when attempting to manage organization-wide change. Professionals are coming to realize that the best-laid plans developed around organizational change initiatives must include not only changing structures and processes but proportionally adapting organizational culture as well. Indeed, cultural change and innovation are more difficult than cultural maintenance (Kotter, 1995; Kotter, 2012a). Empirical evidence demonstrates that the change strategies misaligned with organizational culture often encounter restricted engagement, overwhelming resistance and lower compliance rates leading to the unsuccessful implementation of the proposed initiatives (Senge, 1987; Kotter, 1995). Such misalignment between organizational culture and strategic initiatives fails to get buy-in from the change recipients. On the other hand, the initiatives designed and implemented in the context of existing organizational culture have greater chance of being accepted organization-wide and getting successfully implemented. Hence, it is imperative to thoroughly map out the organizational culture before designing and implementing a large scale organization-wide change (Persaud & Narine, 2000).

For the IWK Health Centre, the PBMA initiative was conceived in the context of organizational strategic priorities and aligned with the values and mission of the organization. Many stakeholders mentioned that these organization-specific values served as guidelines during various discussions, especially when they had to make tough calls

about either disinvestment or not to fund the requested proposal. Most importantly, several participants volunteered that the PBMA initiative has served to engender a culture at the IWK Health Centre that reinforces the use of evidence in resource allocation as well as decision making practices.

Stakeholder engagement: The involvement of the change recipients in the decision making around a change initiative is of critical importance. Evidence thus far demonstrates that the participation of stakeholders and the successful implementation of proposed initiatives are directly correlated with the engagement of stakeholders. Stakeholder involvement in the decision making process differs from the usual communication processes wherein the pre-defined messages are conveyed to the stakeholders. On the other hand, stakeholder engagement encourages the participation from the people who would be ultimately affected by the proposed initiatives, and thus assures that the framework of the change process is based on the practicalities of the system.

One of the things that was frequently mentioned by the participants of this study related to the interactive engagement of the decision makers and frontline staff at various levels. Multiple participants appreciated the fact that the PBMA initiative allowed frontline staff members to get involved in decision making processes around what should be prioritized and what should be funded/not funded at that point in time. Additionally, the process allowed for stakeholders from different departments to listen and understand each other's

perspectives and subsequently initiated discussions around collaborative efforts to define the use of resources in the best interest of the organization.

Cross-disciplinary collaborative outlook: More than ever, the need for collaboration and active communication between various components of the system (“bringing down the silos”) is paramount. In the context of constantly strained resources for the publically-funded Canadian Health Care system, the optimal use of each resource is key to make the most out of the available budget. For an institution like the IWK Health Centre, it is necessary to recognize that an available resource could be shared between departments and used/maintained collaboratively to extract the best possible use of that resource.

The process of PBMA promoted a cross-disciplinary outlook within the stakeholders of various departments. Study participants acknowledged that the information generated for the PBMA proposals and the discussions focused around allocation of resources provided them with a better sense of the overall organizational picture and prompted them to think about a collaborative use of resources. Further, these discussions also allowed them to critically consider the use of resources in their portfolio by comparing it with the best ideas from other departments. Finally, these discussions also initiated conversations around how different departments can collaborate with each other to optimize the use of available infrastructure.

Evidence-informed decision making: Evidence-informed decision constitutes a rational, systematic and scientifically-valid researching and analyzing of the available information.

The policies that are rooted in such evidence-informed decision making have better chance of producing intended outcomes as these decisions are based on relevant meaningful and accurate information. When evidence is used to guide the decision making process, it allows the stakeholders to understand the rationale behind those decisions and enhances the chances that such decisions will produce better buy-in. More importantly, the evidence-informed decisions impart the feeling of transparency within the organization and provide decision makers with a tool to “defend” their decisions.

The participants of the study revealed that the experience with the PBMA has encouraged the use of evidence in day-to-day practices that involve both managerial/administrative as well as clinical tasks. Most of the stakeholders reported that they have an increase in individuals looking for evidence to form their decisions- this trend is more notable with frontline staff. The use of evidence in decision making was practiced at the IWK Health Centre even before the implementation of PBMA; however, following this experience, it has become more prevalent within the organization.

Stakeholder acceptance: Institutionalization of the changes entailed within new initiatives largely depends on how stakeholders perceive the various aspects of that initiative and how they incorporate those changes in their day-to-day practice. Not surprisingly, a higher degree of stakeholder acceptance correlates with a better chance of the proposed changes being accepted.

Most of the participants accepted that the PBMA framework provides a fair, ethical and standardized way to allocate resources within the organization and that it is also better than the historical way of “across-the-board” cuts/additions. Some stakeholders also mentioned that this was a good learning experience for them and that it has provided them with a better understanding of the global strategies of resource allocation that are designed to enhance the system-wide performance for the organization as whole. Moreover, some participants revealed that the PBMA experience reinforced their pre-existing ideas on the use of evidence during resource allocation. Most of the stakeholders expressed their satisfaction, both at a personal and organizational level, with the PBMA process, and relayed that they will encourage similar round/s of PBMA in the future, albeit with some modifications (as noted in the recommendation section).

Stakeholder Satisfaction: Job satisfaction, defined (Locke, 1976) as ‘a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences’, is a critical factor that influences the institutionalization of change and further implementation of the change initiative in subsequent cycles.

The participants of this study conveyed that the stakeholders of the IWK Health Centre hold high regards for the organizational values and greatly appreciate what the organization stands for. It was elaborated that the process of PBMA, even though sometimes time-consuming and workload-heavy, was a process that held the principles of fairness, equity and ethics in alignment with the organizational culture. The stakeholders felt confident about their decisions were based on the available evidence and

they felt that they could “defend” those decisions more vigorously in light of the same evidence. Some expressed that this process gave them “hope” and relevant tools to use when tough decisions around resource allocation needed to be made. Overall, most of the participants of this study expressed a high degree of satisfaction about the PBMA experience at the IWK Health Centre.

5.2 BARRIERS TO THE IMPLEMENTATION OF THE PBMA

This study revealed several factors that should be kept in mind while considering a change initiative like the PBMA at similar institutions, and at the IWK Health Centre in the future. It should be noted, however, that these factors have been reported in the literature as barriers towards implementation of the PBMA framework and are likely characteristic of the experiences of first-time change recipients of this process. Thus, even though the occurrence of these barriers is connected to the first-time implementation of the PBMA process, an understanding and discussions of it will be helpful in the future iterations of the framework at the IWK Health Centre. Additionally, this information will be of paramount importance for health care institutions that are in a process of considering a similar framework, especially during the first cycle of PBMA implementation.

Time and resource constraints: Participants mentioned that the PBMA process is a time-consuming and resource-heavy process. The stakeholders acknowledged that since this was the first time the PBMA was being implemented at the IWK, there were many

things that needed to be done a fresh, and that created a burden on the available capacity. At the same time, many argued that, if the PBMA process was streamlined in the standard operating processes of the organization, it would be integrated into the regular work flow which would help reduce the strain on the resources as well as time that was observed during the first round of the PBMA. Further, the participants also noted that the timeline for the implementation process was longer than they expected and they would like to see it shortened (for more on this, please see recommendation section).

Of note, when this paradigm is viewed from the perspective of the well-known Structure-Process-Outcomes model, the role for input or existing organizational structures becomes more evident. At the IWK Health Centre, the PBMA implementation required the existing organizational structures to be re-oriented and/or expanded so that the process of PBMA could be considered, discussed, formulated and applied. Thus, in the context of implementation of similar PSRA process at other healthcare institution, a thorough consideration for the components of the “structure” will be beneficial. Understanding of the organization-specific contextual attributes and structural components will enhance the success of the PSRA initiatives by facilitating the “process” and enhancing the “outcomes”.

Post-implementation feedback: Multiple participants suggested the need for a feedback process to be put in place, especially following the approval of submissions and during the implementation of those proposals. Most of the time, such a feedback process was mentioned in the context of decisions on the proposals and it was suggested that all of the

participants should receive a communication update following decisions on the submitted proposals. Participants felt that a mechanism that allows people to either make an appeal on unsuccessful submissions, or to make a case for any changes to the already approved proposals would be beneficial. It was relayed that this type of feedback would enhance the accountability on the approved proposals. Such feedback on the unsuccessful proposals would allow them to see the shortcomings and be prepared for the next cycle (if there was one to happen).

5.3 RECOMMENDATIONS AND FUTURE DIRECTIONS:

The experience of the stakeholders at the IWK Health Centre with the implementation of the PBMA process unearthed various factors that either enhance or hinder the success of the implementation of the PBMA framework at a health care institution. Based on this data, below is the list of factors that should be considered while conceptualizing the PBMA process to be implemented at similar organizations.

Manage workload associated with the PBMA process: Considerable attention should be provided to the effect of PBMA-related activities on the institutional resources in the overall organizational context. When implementing the PBMA for the first time, special consideration should be given to the fact that this process places extra demands on the workforce as there is a steep learning curve. However, it is anticipated that, if and when the PBMA framework becomes part of a regular operational decision making process, such a demand on the existing resources will be reduced.

Have multiple mechanisms in place to provide comprehensive feedback: The PBMA process contains various stages and each stage should have a built-in feedback strategy wherein the stakeholders can understand the rationale behind decisions made and are given directions on how to make improvements.

Communicate extensively with stakeholders, especially frontline workers: The detailed information on rationale, objectives, as well as the implementation process of the PBMA framework should be thoroughly communicated to all the stakeholders. Special consideration must be provided to enhance the communication of all necessary information to frontline staff in order to enhance buy-in and stakeholders' understanding of the initiative.

Keep the “academic-ness” of the process to a minimum: The current prescriptive and rigid structure of the PBMA framework is perceived as being very “academic”. Thus, concerted efforts, in collaboration with actual knowledge users (stakeholders of the PBMA process), should be considered to investigate whether the process could be modified to better suit the practicalities of the health care system and associated organizational structures.

Ensure equal access to relevant evidence for all stakeholders: The PBMA process asks the stakeholders to propose various resource allocation decisions based on the evidence. Therefore, it is of utmost importance that such evidence is sufficiently available

to all the stakeholders. Special mechanisms should be in place to make sure that the stakeholders who are not part of the decision making framework get all the relevant information that they can use while making the investment/disinvestment proposals.

Perform the change readiness analysis before the implementation of PBMA: The consideration and/or implementation of the PBMA framework in the healthcare organization should be preceded by change readiness analysis. Such analysis will provide decision makers with the context factors at which efforts could be targeted to achieve maximum buy-in and ultimately greater acceptance/satisfaction.

Celebrate short wins and acknowledge shortfalls (structured follow-up on the outcomes): Various stakeholders, especially those intimately involved in the proposal preparation process, should be informed of the outcomes of the proposals so as to enhance transparency and accountability within the organization. This will also allow stakeholders to better prepare their submission for subsequent phases of the PBMA cycle.

Ensure the involvement of physician champions with the project: The participation of physicians in the PBMA process can be enhanced through the actions of physician champions. The role of physician champions is critical in establishing buy-in from their peers as well as from frontline staff that they interact with.

Promote the shared vision around organizational performance and leadership from the top: All the phases of the PBMA must be endorsed by the upper management and

accompanied by a shared vision that communicates the main objective of enhancing the organizational performance in regards to patient care. This support is critical, especially in the context of finding common ground between various stakeholders with competing interests (which are often valid).

Understand and address the external financial/strategic pressures: Particular consideration must be provided for understanding external factors such as strategic and funding priorities from governmental agencies, which influence resource allocation at the organizational level. Proper consideration of these factors well in advance will allow for the preparation of proposals that better align with available resources.

Build a committed working-group to handle the institution-specific initiative: Ensure that the PBMA process is guided through the actions of a working group that is comprised of stakeholders from various departments and levels of the organization. Also, ensure that this group has champions from their respective specialties (physician champion, nurse champion, manager champion, etc.).

Promote and support inter-disciplinary collaborations: Have mechanisms in place to facilitate, oversee, and guide the implementation of the proposals. Facilitate active inter-disciplinary communication to ensure an understanding of the true impact of changes on the organization as a whole. Mandate support for project leaders with the aim of enhancing collaboration during proposal development and implementation of the recommendations.

Set an appropriate distinction between “small” and “large” gain proposals: Have mechanisms in place that ensure all ideas from participating organizational stakeholders are captured. However, set the ‘ceiling’ or ‘floor’ values for the proposals’ dollar amount as cut off values to trigger the need for a full-length proposal preparation. This will decrease the volume of the proposals and consequently reduce the work-load for all the relevant stakeholders.

Engrain the principles of PBMA into the organization’s culture: The lens of evidence-informed decision making promoted through the PBMA framework should be applied to day-to-day operations at various organizational levels and institutionalized through policies and procedures. This practice can enhance job satisfaction and impart the feeling of an ethical and fair decision making process throughout the organization.

Continuously improve based on feedback from change recipients: The perceptions of the stakeholders are of vital importance for the successful implementation of the PBMA process. Have mechanisms in place to capture the feedback and perspectives of all change recipients and modify organizational policies to reflect this feedback.

5.4 IMPORTANCE OF THE STUDY

Currently, the effect of organizational culture and stakeholders' perspectives on the implementation of the PBMA (or similar initiatives) at Canadian institutions is not

adequately understood. The findings from this project have elucidated information about the role of organizational factors on the implementation of change processes related to the evidence-based resource allocation method. The knowledge synthesized in this project promises to aid capacity building at the organizational level and provide various stakeholders with essential guidelines to approach the organization's culture in a manner that would be beneficial for PSRA processes. More importantly, these findings have revealed factors that influence the success or failure of similar initiatives at comparable health institutions in Canada and elsewhere (Please see Appendix C). Thus, this analysis provides health professionals with valuable information on culture-related deterministic issues that shape the success of the relevant priority setting process implementation (Please see Appendix D or the summary of results).

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APPENDIX A: INTERVIEW GUIDE

Please talk to me about who was involved in the priority setting process and how they were involved.

Tell me about the priority setting process.

Was there an explicit & transparent process?

What were the major considerations? (values, culture, context)

What happened if people did not agree with the decisions or the process?

How are things different from before this priority setting process?

How were the decisions reflected elsewhere in the organization?

What did you learn from the priority setting process?

Improved knowledge or understanding of the organization? (e.g. strategic plan; mission, vision and values; staff/community values)

How would you improve the priority setting process?

How satisfied were you with the priority setting process overall?

APPENDIX B: A CONCEPTUAL FRAMEWORK TO DEFINE "SUCCESS" OF THE PRIORITY SETTING PROCESS AT A CANADIAN HEALTHCARE ORGANIZATION

THEME 1. COMPONENTS OF THE PBMA PROCESS

1. Stakeholder Engagement

Stakeholder engagement refers to an organization's efforts to identify the relevant internal and external stakeholders and to involve those stakeholders effectively in the decision-making process. This should include, at a minimum, administrators, clinicians, members of the public and patients. To ensure adequate engagement, identifying and engaging stakeholders should involve multiple techniques, such as round tables, open forums, departmental meetings. There should be a genuine commitment from the organization to engage stakeholders effectively through partnership and empowerment. Stakeholder engagement is also concerned with stakeholder satisfaction regarding the level of their involvement in the decision-making process.

2. Explicit Process

An explicit process is one that is transparent, not only to decision makers, but also to other stakeholders. Adhering to a predetermined process can enhance trust and confidence in the process. Transparency means knowing who is making the decision as well as how and why the decision will be made. Communication needs to be well coordinated, systematic and well-planned. All stakeholders (internal and external) should be probed for information relevant to the priority setting decisions, and information

should be communicated effectively using multiple vehicles (town-hall, departmental meetings, memos, emails, etc.)

3. Clear and Transparent Information Management

Information management refers first to the information made available to decision makers during the priority setting process. This includes what was used and what was perceived to be lacking. Second, information management considers how the information was managed, including how it was collected and collated. Relevant information includes, but is not restricted to: health outcomes data, economic data (such as cost effectiveness analyses), community needs assessment, current policies or policy reports, and the experiences of both clinicians and patients.

4. Consideration of Values and Context

Values and context are important considerations in any priority setting process, including the values of the organization, the values of staff within that organization, and the values of other stakeholders (such as patients, policy makers, politicians, and members of the community). The mission, vision and values of the organization should guide priority setting. Priority setting decisions should be based on reasons that are grounded in clear value choices, and those reasons should be made explicit. This also involves not only looking within the organization at previous priority setting decisions, but also studying what other health care organizations are doing. This would involve looking at organizations in the local community, at other health care organizations with similar mandates, as well as looking at the other levels of health care provision. Context is distinct from values and considers the organization's goals in the health care environment, as articulated in its strategic directions.

5. Revision or Appeals Mechanism

A revision process is a formal mechanism for the review of decisions, and for addressing disagreements constructively. Such a mechanism is important to ensure the priority setting process rules and requirements are communicated clearly ahead of time. The dual purposes of a revision process are to: 1) improve the quality of decisions by providing opportunities for new information to be brought forward, errors to be corrected, and failures in due process to be remedied; and 2) to operationalize the key ethical concept of responsiveness.

THEME 2. DIMENSIONS OF THE OUTCOMES OF THE PBMA

1. Stakeholder Understanding

Stakeholder understanding implies more than basic knowledge of the process. It assumes stakeholders have gained insight into the priority setting process (e.g., its goals, rationale and rationale for its decisions) and/or the organization (e.g., mission, vision, values, and strategic plan). As stakeholder understanding increases, stakeholder acceptance and confidence should also increase.

2. Shifted Resources

A successful priority setting process results in the allocation of budgets across portfolios, changes in utilization of physical resources (e.g., operating theatre schedules, bed allocations) or possibly changes in strategic directions. Effort that does not result in change may encourage the perception among stakeholders that the process is an inefficient use of time or is done for the outward appearance ('window-dressing') of pre-

determined outcomes. A reaffirmation of previous resource allocation decisions (e.g. the previous year's budget) may, in some circumstances, be seen as a success.

3. Decision Making Quality

Decision making quality relates to appropriate use of available evidence, consistency of reasoning, institutionalization of the priority setting process, alignment with the goals of the process, and compliance with the prescribed process. It also captures the extent to which the institution is learning from its experience in order to facilitate ongoing improvement. This component is most visible as subsequent iterations of priority setting are evaluated; where consistency and building on previous priority setting would be indicative of a successful process. Institutional learning, increased institutionalization of priorities, more efficient decision making, more consistent decision making, and increased compliance with decisions (i.e. 'buy-in') are all valuable outcomes of successful priority setting that are difficult to achieve. Institutional learning from experience facilitates ongoing institutional improvement, which is made more visible as subsequent iterations of priority setting are evaluated.

4. Stakeholder Acceptance and Satisfaction

It is important to consider the satisfaction of all stakeholder groups, both internal and external to the hospital (community groups/public and governmental health agencies/ministries of health). Successful priority setting leads to increased satisfaction over multiple decision cycles. Stakeholder acceptance is indicated by continued willingness to participate in the process (i.e. 'buy-in') as well as the degree of contentment with the process. Stakeholders may be able to accept priority setting decisions, even if they may not always agree with the outcomes.

5. Positive Externalities

Positive externalities can act as a sort of check and balance, ensuring information is made transparent to stakeholders through various avenues, and/or establishing good practices for budgeting in other health care organizations. As an indicator of success, externalities may include positive media coverage (which can contribute to public dialogue, social learning, and improved decision making in subsequent iterations of priority setting), peer-emulation or health sector recognition (e.g. by other health care organizations, CCHSA, etc), changes in policies, and, potentially, changes to legislations or practice.

**APPENDIX C: LIST OF CHILDREN'S TERTIARY CARE CENTERS IN
CANADA (C17)**

Alberta Children's, Calgary

Allan Blair Cancer Centre, Regina

British Columbia Children's Hospital

Cancer Centre Manitoba, Winnipeg

Centre Hospitalier Universitaire, Quebec

Centre Universitaire de Sherbrooke, Sherbrooke

Children's Hospital of Eastern Ontario (CHEO), Ottawa

Children's Hospital, London Health Sciences Centre, London

CHU Sainte Justine, Montreal

Hospital for Sick Children, Toronto

IWK Health Centre, Halifax

Janeway Child Health Centre, St Johns

Health Science Centre (Kingston Regional Cancer), Kingston

Montreal Children's Hospital, Montreal

Mc Master Children's, Hamilton

Saskatoon Cancer Service /Saskatchewan Children's Hospital)

Stollery Children's Hospital, Edmonton

APPENDIX D. SUMMARY OF THE KEY FINDINGS FROM THIS STUDY

Main themes	Elements of the themes	Findings from this study
Process	Stakeholder engagement	Both internal and external stakeholders identified, engagement between various stakeholders recognized
	Explicit process	Process perceived to be transparent, ethical, predetermined, structured, equitable, fair, inclusive and defensible
	Information management	Evidence as well as education available for decision making process
	Consideration for values and context	Organizational culture, brand, vision and overall context guided the process; and was used as a guiding principle to bring down silos between various stakeholders
	Revision or appeals mechanism	Formal structures for appropriate oversight in place, better feedback on the outcomes desired
Outcomes	Improved stakeholder understanding	Better understanding of the rationale, goals and importance of the priority setting process in the organizational context acknowledged
	Shifted resources	Need for resource placement identified and implemented; examples of both investment and disinvestment cited
	Improved decision making quality	Use of evidence in regular decision making process enhanced, and as such acknowledged
	Stakeholder acceptance and satisfaction	Satisfaction towards multiple aspects of the initiative noted
	Positive externalities	Positive changes in organizational culture, organizational learning, collaborative outlook and use of evidence realized